come from the terminal bulbs and tactile corpuscles which are situated chiefly in the skin of the feet and hands. They think that the sensory fibres which are preserved are those which come from the sensory plexus in the skin. This implies that the tactile corpuscles and terminal bulbs are trophic organs for the fibres originating from them.

2. There are also changes in the spinal cord. (*a*) There was observed a diminution in the size of the posterior columns on the amputated side. When the leg was amputated, this was visible in the lowest part of the lumbar enlargement, and reached its maximum at the eighth dorsal segment, where the columns were only one-half the size of the opposite side. No atrophy of individual fibres was observed; there was simply a less number of normal fibres. No other columns of the cord were affected.

(*b*) There was observed a diminution in the number of cells in the gray matter, and a diminution in the size of the posterior horn. All the groups of cells in the anterior horn are not equally affected. The anterior median, antero-lateral, and central groups appear to be unaffected. The postero-lateral group is very markedly involved, being reduced to one-third or one-half the number of cells on the opposite side. Numerous careful observations bear out this statement, the numbers being given in the text. It is only the lower portion of the lumbar spinal cord in which this atrophy is seen, viz., that part from which the sacral nerves arise. The Clarke column of cells in the posterior median area of the gray substance was also found affected on the side of the amputation. The reduction in the size of this group was found to extend from the twelfth to the sixth dorsal segment. The number of cells in any single section was at least one-third less on the side of the amputation. When the amputation had been made in the upper extremity, the same changes were observed, excepting only those in the Clarke column which, as is well known, does not extend above the eighth cervical segment. The authors claim that this establishes the fact of an intimate connection between the Clarke column of cells and the sensory roots; also between the postero-lateral group of cells and the sensory roots.

3. A reduction in the number of fibres, but no appearance of atrophy in individual fibres, was observed in the posterior nerve-roots corresponding in degree with the atrophy in the posterior columns. A bibliography of the subject with critical comments is appended to the article. M. A. S.

Primary Degenerative Neuritis. PROF. A. KAST. (*Deutsch. Arch. f. Kl. Med.*, Vol. 40, 1., p. 41.)

Prof. Kast relates four interesting cases of various forms of neuritis, and in connection with each one of these has some valuable suggestions to offer.

CASE I.—Girl, aged 13, very mild angina follicularis; about two

months later paresis of accommodation; ataxia of upper and lower extremities. Marked disturbances of every form of sensibility; rheumatic pains, but nerves not painful to touch. Marked atrophy of muscles in keeping with general condition; no asymmetrical atrophies. Several months later, atrophy of interossei and of tongue; loss of faradic contractility; diminished galvanic excitability; deep reflexes absent; well-known bulbar symptoms superadded nine months after onset of disease, death from pneumonia. Autopsy: no changes in central nervous system (bulbar symptoms were due to peripheral nerve affection). Degeneration of various peripheral nerves—recurrent, hypoglossal, and various nerves of brachial plexus. (There are no illustrative plates.)

As this was a case with autopsy, it will be well to note the youthful age of this patient; furthermore, that such cases as these are much more than mere "painful paralyses." Apropos of this case, the author discusses the origin of the ataxia. He lays stress upon the fact that the inco-ordination is far in excess of the sensory disturbances. Referring to the researches of H. Tschierjew, he thinks it plausible to assume that the deficiency of the muscular sense is to be held accountable for the ataxia.

CASE II.—Typical case of alcoholic neuritis. Optic nerve first to be affected, various atrophic paralyses in all four extremities. Delirium tremens complicating croupous pneumonia. Patient was examined five months later.

The electrical reactions are given in great detail and are carefully discussed. Within the distribution of a single nerve some muscles showed normal reactions, others complete reaction of degeneration, and still others only partial R. D. Thus faradic stimulation of R. crural nerve produced contraction of sartorius and of all the divisions of the quadriceps femoris except the vastus internus, which failed to respond; the same was true of some other muscles. This difference in electrical behavior the author considers characteristic of peripheral neuritis rather than of poliomyelitis, for, as he justly argues, we could not imagine such changes to be due to a difference in the degeneration of various ganglion cells presiding over any one physiological group of muscles. Dr. Lloyd has recently insisted on very different points in differential diagnosis. The reader will observe that Dr. Lloyd[1] holds that the retention of electro-excitability in the nerves does not appear consistent with the idea of a neuritis, but rather with a slow cord lesion. "If this electric excitability can be preserved in a chronic neuritis, we must suppose a very slow interstitial inflammatory process which compresses some fibres and allows others to escape. But to think that this happens in the narrow calibre of a nerve-trunk during a prolonged period of inflammation seems to require some effort of imagination and credulity"—the exact opposite of Kast's views. We think Kast's argument entirely sound, in perfect agreement with his careful electrical examina-

[1] See report of Philadelphia Neurological Society in this number.

tions. But the two authors have based their conclusions upon entirely different cases. No doubt in some cases Lloyd's views will prove correct. The entire subject needs further careful study. Possibly, too, when all the facts are known, we may find that electrical tests will not furnish points of differential diagnosis between neuritis and anterior poliomyelitis.

CASE III.—Female; æt. 23. Eleven days after confinement, septic fever lasting for nearly two months. At the end of this time, patient developed atrophic paralysis in the partial distribution of ulnar and median nerves, with some partial and some complete R. D. Violent pains in arms. Pain on pressure over nerve trunks; transient paresis and paræsthesiæ of legs, possibly septic endocarditis; complete recovery within little more than a year. Case is interesting as an instance of multiple neuritis developing in the wake of a tangibly infectious disease.

CASE IV.—Man; æt. 21. Was given an hypodermic injection of ether into the upper third of left forearm. In a few days patient developed typical musculo-spiral paralysis. Complete R. D. in entire distribution of the nerve. No very marked sensory symptoms, but considerable subjective pain. Recovery within a few months. This accident suggests a way in which neuritis might be studied experimentally. B. S.

MENTAL PATHOLOGY.

Cases of Microcephalon Caused by Psychical Influences during Pregnancy. PROF. C. LOMBROSO. (*Arch. di Psichiatria, Scienza Penali ed Antropologia Criminale.* Vol. VII. Fasc. II. 1886.)

The first case reported by Dr. Lombroso is that of a microcephalic idiot, aged 7, whose mother, a healthy and fine contadina, aged 20 at the time the child was born, was frightened by a large ape in the first months of her pregnancy. The impression made was profound and remained for a long time. The father and sisters of the child were robust and healthy.

The second case is that of a youth of 20, exhibiting retarded development, looking not more than 15. His three brothers were healthy, although small of stature, as were both father and mother. He did not walk until 7. He did not make gestures or pronounce an intelligible syllable until he was 12. He showed great signs of fear and exhibited great cruelty to animals. His skull was asymmetrical and the cranial capacity much less than normal.

His mother suffered from a great fright some time between the third and sixth month of her pregnancy from seeing a soldier threatening to split the head of her husband with a sickle. From that time she was in a state of fear, with trembling, cramps in her members, without appetite, and a sense of cold throughout her body.

Prof. Lombroso thinks that psychical origin of an embryonal deformity is not at all inadmissible when one considers the persis-